CLAIMS

1. An electroacoustical device comprising:

a loudspeaker enclosure including a first acoustic port;

an acoustic driver mounted in said loudspeaker enclosure;

a heat producing device, heating surround air, and causing a convective airflow;

said acoustic driver and said acoustic port constructed and arranged to coact to provide a cooling substantially unidirectional airflow in substantially the same direction as said convective airflow across said heat producing device thereby transferring heat from said heat producing device.

2. An electroacoustical device in accordance with claim 1, wherein said loudspeaker enclosure further includes a second acoustic port,

said heat producing device positioned in said enclosure,

said first acoustic port, said second acoustic port, and said acoustic driver constructed and arranged to coact to provide a substantially unidirectional cooling airflow across said heat producing device, thereby transferring heat from said heat producing device.

3. An electroacoustical device in accordance with claim 1, and further comprising an airflow passage outside said loudspeaker enclosure,

said heat producing device positioned in said airflow passage.

4. An electroacoustical device comprising:

an acoustic enclosure;

a first acoustic port in said acoustic enclosure;

an acoustic driver mounted in said acoustic enclosure for causing a first airflow in said first acoustic port,

said first airflow alternatingly inward and outward of said enclosure;

a heat producing device;

wherein said acoustic port is constructed and arranged so that said first airflow creates a substantially unidirectional second airflow; and

structure for directing said unidirectional second airflow across said heat producing device.

5. An electroacoustical device in accordance with claim 5 and further comprising:

a second acoustic port constructed and arranged to coact with said first acoustic port to provide said second airflow.

6. An electroacoustical device, in accordance with claim 5 and further comprising:

an airflow passage outside said acoustic enclosure for directing said second airflow.

7. A loudspeaker enclosure having an interior and an exterior, comprising:

a first port having a first end having a cross-sectional area and a second end having a cross-sectional area,

wherein said first end cross sectional area is greater than said second end cross-sectional area with said first end abuts said interior and said second end abuts said exterior; and

a second port located above said first port.

8. A loudspeaker enclosure in accordance with claim 7,

wherein said second port has a first end having a cross-sectional area and a second end having a cross-sectional area with said first end cross sectional area larger than said second end cross-sectional area, and wherein said second end abuts said interior and said first end abuts said exterior.

9. A loudspeaker enclosure in accordance with claim 7 and further comprising a mounting point for at least one heat producing device located below said second port.

10. A loudspeaker enclosure in accordance with claim 9 wherein said mounting point is constructed and arranged for mounting an acoustic driver.

11. A loudspeaker system comprising:

an electroacoustical transducer;

a loudspeaker enclosure having a first port having an interior end and an exterior

end, said interior end and said exterior end each having cross-sectional area,

wherein said exterior end cross-sectional area is larger than said interior end cross-sectional area; and

a second port having an interior end and an exterior end, wherein said first port is located above said second port.

12. A loudspeaker system in accordance with claim 11 wherein said second port interior end and said second port exterior end each has a cross-sectional area,

wherein said second port interior end cross-sectional area is larger than said second port exterior end cross-sectional area.

13. A loudspeaker system in accordance with claim 11, wherein said electroacoustical transducer is positioned in said loudspeaker enclosure higher than said first port and lower than said second port.

14. A loudspeaker enclosure having a top and a bottom comprising:

a first port having an interior end and an exterior end, each of said first port interior end and said first port exterior end having a cross-sectional area,

wherein said first port interior end cross-sectional area is smaller than said first port exterior end cross-sectional area;

a second port having an interior end and an exterior end,

each of said second port interior end and said second port exterior having a cross-sectional area,

wherein said second port interior cross-sectional area is larger than said second port external cross-sectional area.

15. A loudspeaker enclosure in accordance with claim 14, wherein said first port exterior cross-sectional area is positioned closer to said top than said second port interior cross-sectional area.

16. A loudspeaker enclosure in accordance with claim 14 and further comprising an opening for an electroacoustical transducer positioned above said first port interior end and said second port interior end.

17. An electroacoustical device for operating in an ambient environment comprising:

an acoustic enclosure comprising a port having an exit for radiating pressure waves;

an electroacoustical transducer positioned in said acoustic enclosure,

said electroacoustical transducer for vibrating to produce said pressure waves;

a second enclosure having a first opening and a second opening;

wherein said port exit is positioned near said first opening so that said pressure waves are radiated into said second enclosure through said first opening,

and wherein said port exit,

said first opening, and said enclosure are constructed and arranged to cause air from said ambient environment to flow into said second enclosure through said first opening;

a mounting position for a heat producing device in said second enclosure positioned so that air flowing into said second enclosure through first opening from said ambient environment flows across said mounting position.

18. An electroacoustical device in accordance with claim 17 and further comprising a heat producing element mounted at said mounting position.

19. An electroacoustical device in accordance with claim 18 wherein said heat producing element is an audio amplifier.

20. An electro-acoustical device, comprising:

a first enclosure comprising a port having a terminal point for an outward airflow to exit said enclosure to an ambient environment and for an inward airflow to enter said

enclosure;

an electroacoustical transducer comprising a vibratile surface for generating pressure waves resulting in said outward airflow and said inward airflow;

a second enclosure comprising a first opening and a second opening,

wherein the port terminal point is positioned near said first opening and oriented so that said port terminal outward flow flows toward said second opening and wherein said port and said electroacoustical transducer coact to cause a substantially unidirectional airflow to flow into said first opening.

21. An electroacoustical device for operating in an ambient environment comprising:

an acoustic enclosure comprising a port having an exit for radiating pressure waves;

an electroacoustical transducer positioned in said acoustic enclosure,

said electroacoustical transducer for vibrating to provide said pressure waves;

an elongated second enclosure having a first extremity and a second extremity in a direction of elongation;

a first opening at said first extremity and a second opening at said second extremity;

wherein said port exit is positioned in said first opening so that said pressure waves are radiated into said second enclosure through said first opening toward said second opening; and

a mounting position for a heat producing device in said elongated second enclosure positioned so that air flowing into said opening from said ambient environment flows across said mounting position.

22. An electroacoustical device in accordance with claim 21, further comprising a heat producing element mounted at said mounting position.

23. An electroacoustical device in accordance with claim 22 wherein said heat producing element is an audio amplifier.

24. An electroacoustical device, comprising:

a first enclosure comprising a port having a terminal point for an outward airflow to

exit said enclosure and for an inward airflow to enter said enclosure;

an electroacoustical transducer comprising a vibratile surface mounted in said first enclosure for generating pressure waves resulting in said outward airflow and said inward airflow;

a second enclosure comprising a first opening and a second opening,

wherein said port terminal point is positioned in said second enclosure and oriented so that said port terminal outward airflow flows toward said second opening and wherein said port and said electroacoustical transducer coact to cause a substantially unidirectional airflow into said first opening.

25. An electroacoustical device in accordance with claim 1 wherein said acoustic port is formed with a vent and further comprising,

an acoustic element communicating with said vent and coacting therewith to introduce damping acoustic impedance into said acoustic port that reduces the standing wave amplitude in said acoustic port for at least one predetermined wavelength.

26. A loudspeaker enclosure having a port tube, said port tube formed with a vent and further comprising,

an acoustic element communicating with said vent and coacting therewith to introduce damping acoustic impedance into said port that reduces the standing wave amplitude in said port for at least one predetermined wavelength, and;

acoustic damping material positioned in said acoustic element.